Update on 2011 National Hurricane Center Proving Ground

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PG All Hands Conference Call

July 22, 2011

Outline

- Project Schedule
- Product Summary and Status
- Training
- Feedback

Schedule

- 1-31 July – Product implementation and on-line training development
  - Underway
- 13 July – Operations plan completed
  - Awaiting final approval from PG executive board
- 27 July – Webinar to NHC forecaster on product overview
- 1 Aug – PG Begins
- Early Sept – Mid-year review at NHC
- 30 Nov – PG Ends
- 24 Feb 2012 – Final report completed
- Mar 2012 – Summary at the Interdepartmental Hurricane Conference

NHC PG Products

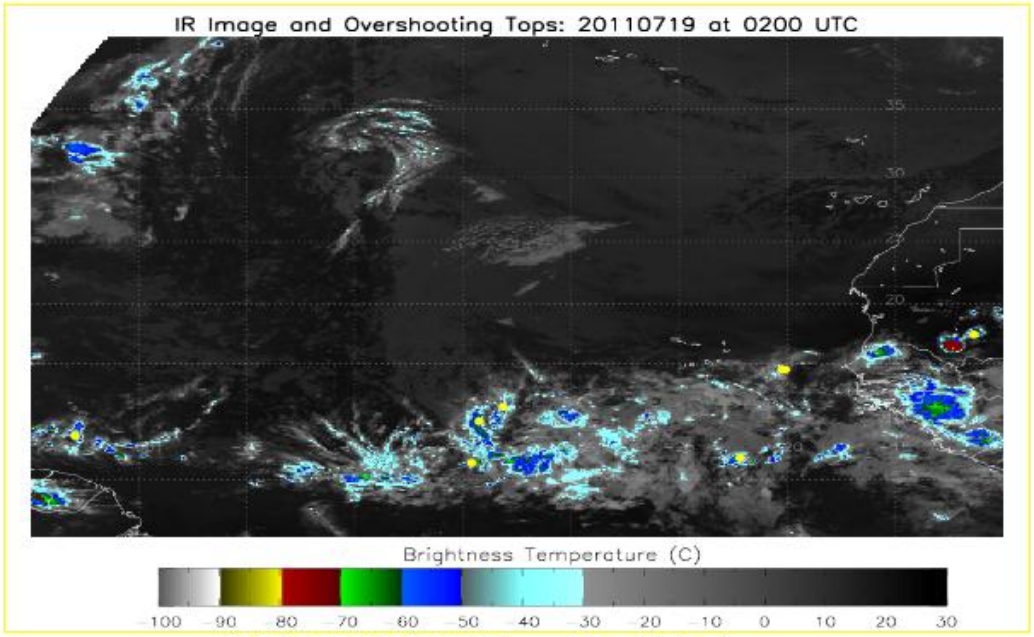
1. Hurricane Intensity Estimate (Baseline)
   - SEVIRI and GOES-east
   - Already available on CIMSS web page
2. Super Rapid Scan Operations (Baseline)
   - GOES-east/west
   - Called by CIRA in coordination with NHC, CIMSS
   - Priority is U.S. landfall
3. (Tropical) Overshooting Tops (Option 2)
   - SEVIRI
   - Already available on CIMSS web page

Past 2011 MSG TCs

GOES-R Proving Ground Product Demonstration: Meteosat Overshooting Tops and Atlantic TC Genesis

Product Developers: Sarah Monette and Chris Velden
OT Algorithm Developers: Kristopher Bedka and Wayne Feltz

Current image of the Atlantic Ocean. Yellow dots represent the location of tropical overshooting tops (TOTs).



3-hr Animation of the above image Text of OT locations

This GOES-R PG demonstration employs an objective satellite-based overshooting top (OT) detection algorithm in the tropical Atlantic hurricane breeding ground based on Meteosat SEVERI IR imagery. The OTs are used as a proxy indicator to analyze vigorous convection trends in tropical disturbances that may become incipient tropical cyclones. Preliminary research has indicated some skill in using the OT product as a predictor of TC genesis and rapid intensification. Some training material can be found here on the objective satellite-based overshooting top detection algorithm.

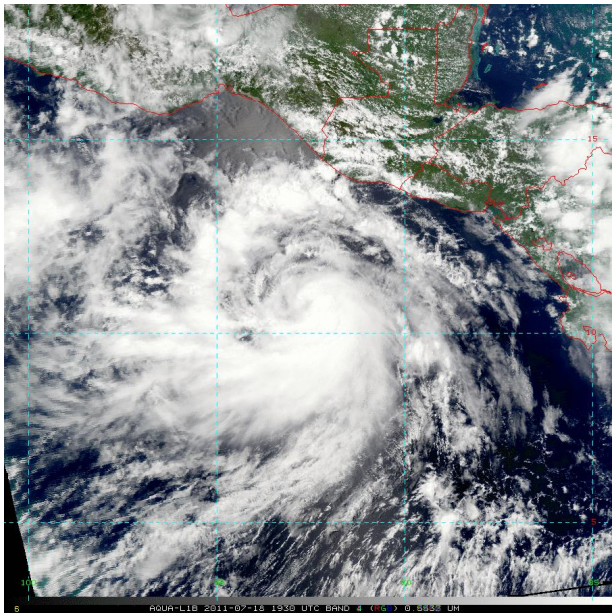
DISCLAIMER: THESE PRODUCTS ARE GENERATED ON AN EXPERIMENTAL BASIS. ACCURACY AND TIMELINESS ARE NOT GUARANTEED.

Last updated at Tue Jul 19 02:18:22 UTC 2011

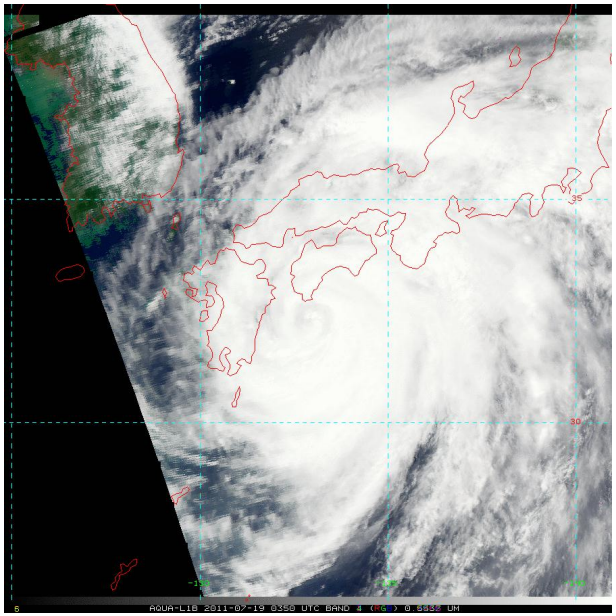
CIMSS Overshooting Tops Web Page

NHC PG Products

4. Natural Color Imagery (Decision Aid)
   - MODIS
   - Synthetic green GOES-R algorithm
   - True color for comparison
   - Available on CIRA TC Real-Time Products page



Tropical Storm Dora (EP)



Typhoon Ma-On (WP)

NHC PG Products

5-6. RGB Air Mass and Dust Products (Decision Aid)

- SEVIRI
  - Air Mass over CONUS also from GOES-E/W
- Already available in Google Earth format at CIRA
- SPoRT has N-AWIPS versions on ftp server
  - NHC still needs to set up ingest/display of N-AWIPS version

7. Saharan Air Layer (Decision Aid)

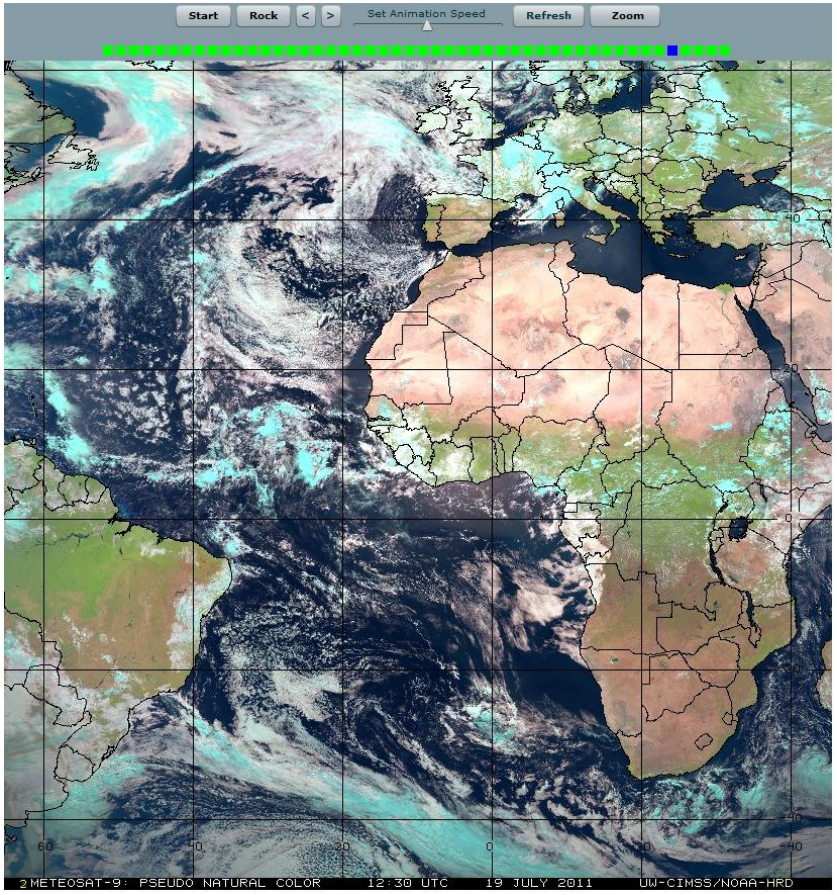
- SEVIRI
- Google Earth available at CIRA
- Web version available from CIMSS

NHC PG Products

8. Rapid Intensification Index (RII) (GOES-R3)
   - WWLLN lightning data, GOES E/W IR, GFS model forecasts, SST analyses, OHC from satellite altimetry
   - Experimental version of operational RII with lightning input
   - Estimates probability of rapid intensification (30 kt or more increase in max sfc winds) in next 24 hr
     - 2011 version also includes rapid weakening probability
       - 20 kt decrease in 24 hr for storm over water
   - Text product will be available from CIRA ftp server by Aug. 1st

NHC PG Products

9. Pseudo Natural Color
   - SEVIRI
   - Qualitative version of natural color
   - Loops available from CIMSS web page



Training

- Live one-hour product overview to NHC forecasters on 27 July (noon-1 PM eastern)
- Web summaries for all products on CIRA and CIMSS sites
  - 7 of 9 already available
    - SAL and pseudo natural color will be ready by Aug. 1

Feedback

- NHC focal points will coordinate forecast feedback
  - Michael Brennan, Jack Beven (HSU)
  - Andrew Levine (TAFB)
- Comments collected at mid-year review and post-project conference call
- CIRA Blog may be utilized in 2011
- Quantitative evaluations in post season
  - HIE by NHC
  - RII by RAMMB/CIRA

Questions?